



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/528,000	03/17/2000	Shiri Kadambi	P108339-09065	3384

32294 7590 01/30/2004

SQUIRE, SANDERS & DEMPSEY L.L.P.
14TH FLOOR
8000 TOWERS CRESCENT
TYSONS CORNER, VA 22182

EXAMINER

HOANG, THAI D

ART UNIT PAPER NUMBER

2667

DATE MAILED: 01/30/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/528,000

Applicant(s)

KADAMBI ET AL.

Examiner

Thai D Hoang

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 11/21/2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 5 are rejected under 35 U.S.C. 102(e) as being unpatentable over Hoffman et al, US Patent No. 6,094,435 in view of Lau et al, US patent No. 6,636,523 hereafter referred to as Hoffman and Lau respectively.

Regarding claim 1, Hoffman discloses a system and method for a quality of service in a multi-layer network element. Hoffman discloses that the system performs the step of forwarding received packets from an input port to one or more output ports with quality of service; abstract; col. 5, lines 4-5 (receiving an incoming packet on a first port of a network switch for transmission to a destination port). Also, Hoffman teaches that the system detects and handles congestion in an output port of a multi-layer network element comprises a central processor unit (CPU) and a switching element. The switching element is configured to output packets to a network through output ports; col. 5, lines 6-10; abstract; col. 7, lines 49-59 (determining if the destination port is a monitored port). Furthermore, Hoffman teaches that when output queues exceed or meet a threshold value below the queue's capacity packets are randomly discarded. When the queue becomes full, the network element determines which flow caused the queue to overflow; see abstract (determining a queue status of destination port, if said

destination port is determined to be a monitored port). In addition, Hoffman discloses that the system comprises the step of Scheduling of multiple output queues at each output port uses a weight round robin approach that allocates a weight portion of packets to transmit at each time interval; abstract; and a software running on the router 24 parses an incoming packet to determine various characteristics about the packet, including the type of the protocol being used and the source and destination(s). Other determinations based on examining the packet may be necessary, such as priority and quality of service (QoS) factors such as priority and bandwidth reservation; col. 7, lines 49-55 (pre-scheduling transmission of said incoming packet to said destination port if said destination port is determined to be a monitored port). Hoffman does not disclose that the system is a stacked switching system. However, Lau discloses a method of flow control using rules queue monitoring in a network switching system. Lau teaches that the system comprises a plurality of switches connected in a stack (fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt stacking system disclosed by Lau into Hoffman's system in order to expand the network.

Regarding claim 2, Hoffman discloses that classification of packets into different queues results from global priority information output to the input port 50i by the forwarding logic 52, which the input port 50i passes to the output port 56i; col. 1, lines 22-31 (classifying said queue status of said destination port). Furthermore, Hoffman teaches that when output queues exceed or meet a threshold value below the queue's capacity packets are randomly discarded. When the queue becomes full, the network

element determines which flow caused the queue to overflow; abstract (taking action in accordance with said classification of said queue status.)

Regarding claim 5, Included in the output port 56i is a mapping logic 302 that translates the global priority information into a queue selection signal for storing the pointer from input port 50i; col. 19, lines 51-53, and 57-65. Furthermore, Hoffman discloses that when the queue Qi becomes full, a "queue full" interrupt is generated; col. 21, lines 64-65. Therefore, it indicates that the step of determining if the destination port further comprises the step of receiving a status message on a communication channel.

Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al, US Patent No. 6,094,435, in view of Lau et al, US patent No. 6,636,523, and further in view of Zheng et al, US Patent No. 6,611,522 B1, hereafter referred to as Hoffman, Lau and Zheng respectively.

Regarding claim 3, Hoffman discloses a system and method for a quality of service in a multi-layer network element. Hoffman discloses that the system performs the step of forwarding received packets from an input port to one or more output ports with quality of service; abstract; col. 5, lines 4-5 (receiving an incoming packet on a first port of a network switch for transmission to a destination port). Also, Hoffman teaches that the system detects and handles congestion in an output port of a multi-layer network element comprises a central processor unit (CPU) and a switching element. The switching element is configured to output packets to a network through output ports; col. 5, lines 6-10; abstract; col. 7, lines 49-59 (determining if the destination port is a monitored port). Furthermore, Hoffman teaches that when output queues exceed or

meet a threshold value below the queue's capacity packets are randomly discarded. When the queue becomes full, the network element determines which flow caused the queue to overflow; see abstract (determining a queue status of destination port, if said destination port is determined to be a monitored port). In addition, Hoffman discloses that the system comprises the step of Scheduling of multiple output queues at each output port uses a weight round robin approach that allocates a weight portion of packets to transmit at each time interval; abstract; and a software running on the router 24 parses an incoming packet to determine various characteristics about the packet, including the type of the protocol being used and the source and destination(s). Other determinations based on examining the packet may be necessary, such as priority and quality of service (QoS) factors such as priority and bandwidth reservation; col. 7, lines 49-55 (pre-scheduling transmission of said incoming packet to said destination port if said destination port is determined to be a monitored port). Hoffman does not disclose that the system is a stacked switching system and it comprises the step of classifying queue status and taking action in accordance with the queue status. However, Lau discloses a method of flow control using rules queue monitoring in a network switching system. Lau teaches that the system comprises a plurality of switches connected in a stack (fig. 1). In addition, Zheng discloses a system, wherein the data output of the system is operated based on three levels of output queue status; figs. 30 and 31; col. 27, lines 5-25. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt stacking system disclosed by Lau into Hoffman's system in order to expand the network; and adapt queuing level method disclosed by

Zheng into Hoffman's system in order to control output data effectively because congestion or bottleneck in the system is avoided.

Allowable Subject Matter

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (703) 305-3232. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Thai Hoang


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

1/23/04